



**Recommendations on the Review of the
1987 Canada-United States
Great Lakes Water Quality Agreement (GLWQA)**

Phase I Report

**Prepared for:
The Water Quality Board, of
The International Joint Commission**

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TABLE OF CONTENTS

A.	Introduction	3
B.	Issues and Implications Surrounding the Purpose of the Agreement	
1.	Does the Agreement have the capacity to address new and emerging stressors in the Great Lakes Region?	4
2.	What are alternative purposes or approaches for the Agreement that would better respond to current needs and challenges?	6
3.	Is the Purpose of the Agreement “to restore and maintain the chemical, physical and biological integrity of the waters of the Great Lakes Basin Ecosystem” still valid and relevant?	7
4.	What are the key potential criticisms of broadening the focus of the Great Lakes Water Quality Agreement to encompass the Great Lakes Basin Ecosystem?	11
5.	Should a Great Lakes Basin Ecosystem [GLBE] Agreement include issues of Great Lakes water withdrawals, levels and flows?	13
6.	What would be the main differences between a Great Lakes Basin Ecosystem Agreement [Agreement] and a Great Lakes Basin Ecosystem Management Agreement [Management Agreement]?	15
7.	Will it be sufficient to broaden the purpose statement of the GLWQA and not make other changes in the Agreement?	17
8.	What could be the scope of an Agreement review?	19
9.	What role should the IJC play in a review?	20
C.	Summary Notes on the Reviews of the 1972 Agreement and 1978 Agreement	22

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Two additional project phases are planned to follow this report over the next few months; a second phase more specifically addressing aspects of our Phase I report and the third and final phase providing advice regarding potential Great Lakes governance and institutional arrangements.

The vision that inspires our “New Approach to Water Management” initiative is of a fresh, inclusive bi-national Great Lakes initiative that has the ultimate goal of protecting and improving the ecosystem integrity of the basin for future generations. We see a new approach to water management in the basin that takes a positive, progressive, prevention-oriented forward-looking view of what is needed to achieve future sustainability. While this vision recognizes that many positive gains have been achieved over the years, it suggests that new approaches, new partnerships and new institutions are needed to ensure protection of our Great Lakes water resources in the future.

We see these new approaches, partnerships and institutions coming together to develop a re-energized, positive, forward-looking Great Lakes agenda that focuses on water but addresses the ecosystem, community and economic sustainability of the region.

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Phase I Report

A. INTRODUCTION

PURPOSE: To develop, refine and present recommendations regarding the review and renewal of the 1987 Canada-United States Great Lakes Water Quality Agreement.

The Great Lakes Water Quality Agreement (GLWQA) was first issued in 1972, revised in 1978 and amended by supplement in 1983 and by protocol in 1987. Article X (4) of the GLWQA calls for the Parties (Canada and United States) to conduct a comprehensive review of the Agreement following every third biennial report of the International Joint Commission (IJC). No review of the Agreement has been completed since 1987.

The IJC has noted that a review of the Agreement by the Parties is required in 2004 following the release of the Twelfth Biennial Report. There is growing interest among other groups in the Great Lakes region for this review. Consequently, the IJC seeks development of advice to governments regarding the review of the Agreement as well as consideration of its role in this process.

This Phase I paper addresses the two key questions –

IS THE AGREEMENT STILL VALID?

WHAT ROLE SHOULD THE IJC PLAY IN AN AGREEMENT REVIEW?

These key questions, together with additional supplementary issues and questions, are examined below in a standardised format of three elements: *issue/question, recommendations, and background/rationale.*

A Phase II report will more specifically address aspects of this Phase I report and a Phase III report will provide additional advice regarding potential Great Lakes governance and other institutional arrangements.

B. Issues and Implications Surrounding the Purpose of the Agreement

Issue/Question #1:

- Does the Agreement have the capacity to address new and emerging stressors in the Great Lakes Region?

Recommendations:

1. In its present form the Agreement has neither the flexibility nor the comprehensiveness of provisions to respond to new pressures being faced by the Great Lakes ecosystem.
2. It is recommended that consideration be given to new or revised Articles of Agreement and to the addition of new Annexes that will specifically address the new pressures and/or provide for the integration of new measures and actions with those programs already underway.

Background/Rationale:

1. The GLWQA is essentially a pollution control and elimination instrument that reflects the context of the time (1970's) in which it was first established. While the GLWQA is now recognized worldwide as having made an important contribution to the management of shared waters on a binational basis, there is still an unfinished agenda of important actions that must be completed. In addition to increased pressures from existing issues there are also new and emerging challenges to the integrity of the Great Lakes ecosystem. For example:
 - Alien invasive species — In its 11th Biennial Report, the IJC noted that, despite previous and ongoing mitigation efforts, the introduction and spread of alien invasive species continues to impair the biological integrity of the Great Lakes-St Lawrence River basin.
 - Climate change — Current global climate change scenarios point to the vulnerability of the Great Lakes to serious potential impacts from changing temperature, precipitation and weather regimes requiring the development of adaptation strategies.
 - Land use/urbanization — Demographic projections for the coming decades suggest rapid growth of many urban centres around the Great Lakes with accompanying pressures and impacts on land use planning, agricultural areas, wildlife conservation, shorelines, watersheds, water supply and treatment systems.
 - Aging urban infrastructure — Rapid population growth and urbanization require large investments in new water supply and treatment systems but, at the same time, existing aging water systems must be repaired and renewed. The cost of renewing and modernizing water and wastewater infrastructure is enormous and there is urgency for rational assessment and informed decision-making about the need for new or expanded infrastructure and about potential impacts on Great Lakes waters.
 - Coastal wetlands — Preservation of natural conditions in the coastal areas of the Great Lakes has been a challenge for some time, and coastal wetlands have been particularly susceptible to loss. Increased urbanization, industrial development, and

the potential impacts of climate change will add to the pressures on these fragile systems.

- Human health — Considerable improvement has been achieved in the Great Lakes region with respect to the removal of pollutants harmful to the environment and human health. However, factors such as changing climatic conditions, more mobile populations, and the evolution or introduction of new classes of chemicals call for new measures, approaches and systems.
2. Principles of the Agreement are appropriately broad and understanding of the diverse nature of the issues confronting the Great Lakes. They provide at least indirect reference to the new challenges. However, the intellectual framework upon which these principles are based does not include more modern, forward-looking concepts such as adaptive management, sustainability, and the precautionary principle which are important policy tools for dealing with competing environmental and economic priorities in the 21st century
 3. Articles and Annexes of the Agreement are not explicit in their coverage of the emerging issues noted above and do not point to specific actions or programs that should be undertaken by the Parties. For example:
 - Article VI (1a) deals with pollution from municipal sources and the construction and operation of wastewater treatment facilities but not in the context of aging infrastructure or increased urbanization.
 - Article VI (1e/vi) recommends land use planning considerations but there is no expansion of this in subsequent Annexes.
 - Annex 2 contains the general principle that “Remedial Action Plans and Lakewide Management Plans shall embody a systematic and comprehensive ecosystem approach to restoring and protecting beneficial uses...” but the subsequent focus of recommended actions is pollution elimination.
 - Annexes 4-6 deal with pollution from shipping but only call for “studies to determine if live fish or invertebrates in ballast water discharges into the Great Lakes system constitute a threat to the system”. That threat is now well documented and the Agreement should go further in addressing this issue of invasive species.
 4. Activities of the Parties have already incorporated concepts such as sustainability in their programs and strategies, and have taken action with respect to some of the new issues noted above. For example, in Canada the 1994 and succeeding 2002 Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem (COA) moved well beyond the original form of COA, also developed in the context of the 1970’s, which was an administrative arrangement for pollution elimination and control. The 2002 agreement addresses broad issues such as land use, habitat protection and rehabilitation, emissions to the atmosphere, and human health research. It also sets time-specific and product-specific objectives and targets.

In the United States; state, federal and tribal governments have also moved beyond the stated scope of the GLWQA through the “Great Lakes Strategy 2002” which was created to advance the restoration and protection of the great lakes basin ecosystem through a number of goals and actions covering a wide range of activities that go beyond pollution reduction efforts.

Issue/Question #2:

- What are alternative purposes or approaches for the Agreement that would better respond to current needs and challenges?

Recommendations:

1. There are several options for a renewed or refreshed Agreement ranging from an “as is” document supplemented by additional new Annexes to a completely remodelled intergovernmental instrument capable of addressing the entire scope of the Great Lakes basin ecosystem.
2. Strategic analysis and assessment of the options presented below is recommended – first by a focus group of Great Lakes specialists and later extended to a broader multistakeholder forum.

Background/Rationale:

1. The 1972, 1978 and 1987 Agreements were very successful catalysts in the remediation and protection of the waters of the Great Lakes basin. These agreements initiated an ambitious program of activity by governments at all levels and have received international recognition. Review of the existing Agreement must recognize that it is not renewal of a failure that is being considered but the refreshing of a success.
2. There is still a large unfinished agenda of environmental action required for the Great Lakes basin. Therefore, consideration of new approaches for the Agreement must also be careful not to create barriers for the unfinished work or to eliminate those elements of the Agreement that continue to be valuable stimulants for action. The following options are examples of a range of slightly different to markedly different approaches that could be taken to complete the current agenda and confront the new realities in the Great Lakes region.
 - Option 1 — leave the GLWQA in its present form and add Annexes to provide coverage of new or emerging issues. This would require no change to the Agreement’s existing principles and general objectives as they should have enough flexibility of language to accommodate most new initiatives. For example, existing references to biological integrity could be enough to encompass proposed actions relating to invasive species. Similarly, the Article VI (1e/vi) reference to land-use planning provides for expanded attention to this topic in a new Annex. In actuality however, this option is not a particularly different approach or major change in direction.
 - Option 2 — change the GLWQA from a “water quality” to an “ecosystem management” agreement but integrate new provisions into the existing framework. This is a significant and perhaps controversial change in approach though not in structure. Members of the Great Lakes community with a longstanding history of participation in Agreement programs could be particularly sensitive to the change from a water quality approach. Defining the GLWQA as a water quality Agreement was an important aspect of the original negotiations. However, if a renewed Agreement is to address a broader range of important issues then there is a clear need to continue the pollutant elimination focus (i.e. chemical integrity) while raising the profile of the physical and biological integrity elements of the Agreement. This will require:

- modification of the principles and general objective statements;
 - revision of the content of existing Annexes to bring their objectives and targets up to date;
 - addition of Annexes to address new issues.
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- Option 3 — complete remodelling of the GLWQA into a Great Lakes Sustainability Agreement. This is a major change in approach with the Agreement evolving from a water quality instrument, beyond an ecosystem management tool, to an intergovernmental arrangement that respects the principles of sustainable development. Social and economic elements would be integrated with the environmental concerns. This calls for new purpose statements, revised principles, and a new set of modernised Annexes which both continue the agenda set by the previous Agreement and put in place new goals and objectives to reflect emerging needs and issues. This much broader approach to Great Lakes issues would also draw in a wider range of public and private sector participants, beyond the traditional environmental agencies who have held responsibility for the GLWQA. (It should be noted, in this context, that the 2002 Canada-Ontario Agreement was endorsed by the Ministers of eight federal and three provincial departments.)

Issue/Question #3:

- Is the Purpose of the Agreement “to restore and maintain the chemical, physical and biological integrity of the waters of the Great Lakes Basin Ecosystem” still valid and relevant?

Recommendation:

1. Delete the words “of the waters” from the above statement and adjust text accordingly in the Preamble, Article I, Article II, Article III, and Article IV to provide greater context. Also textual changes to Article VI and the Annexes to specify appropriate programs and measures. This would update the purpose of the GLWQA and bring it up to date with the current Great Lakes policies of the Parties.

Background/Rationale:

1. The phrase “of the waters” is in the current purpose statement to confine application of the agreement specifically to waters of the Great Lakes Basin Ecosystem and not to other components of the ecosystem. It is, however, generally accepted today that water is impacted by other components of the ecosystem and therefore management of air, land and waters must be carried out in an integrated manner to protect and restore any component of the ecosystem. This is reflected in two recent and important policy statements of the Parties in their respective domestic reaffirmations to the restoration of the Great Lakes Basin Ecosystem – namely the 2002 Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem and the 2002 Great Lakes Strategy of the U.S Great Lakes Policy Committee discussed below in sections 4 and 5 of this note.
2. The text in Article II following the purpose statement orients the agreement as a pollutant reduction agreement focussed on reducing toxic chemicals and eliminating toxic persistent substances discharges into Great Lakes waters, the principal concern of the day. While toxic chemical impacts to the Great Lakes Basin Ecosystem remain a concern, it is understood in a new context of maintaining and enhancing overall ecosystem quality. For example, removal of contaminated sediments is seen as not only improving water quality per se, but also improving benthic life, continuing right up the food chain and hence creating new opportunities for water and adjacent land uses. This view encompasses the quality of the whole ecosystem with regard to preserving and enhancing natural biodiversity through habitat protection and restoration, improving air quality and human health as well as improving water quality.
3. Both the 1972 and 1978 Agreements were focussed on pollutant reductions; phosphorus in the 1972 agreement and toxic persistent substances in the 1978 Agreement. In spite of the introduction of the concept of the Great Lake Basin Ecosystem in the 1978 Agreement, the expansion of coverage to include contaminated sediments, groundwater and air- borne toxics was driven by a toxics reduction view. Contemporary environmental thinking and management has moved beyond mere pollutant reduction to include restoration, rehabilitation and resource management in all components of the ecosystem to protect and gain environmental quality improvement. It is now generally accepted in environmental management that it is not possible to protect or maintain water quality by just focussing on pollutant discharges to those waters. The job requires an ecosystem approach.
4. This view has been formally adopted in the recently signed 2002 Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem. This agreement whose original purpose was to

coordinate provincial and federal actions to meet the requirements of Canada-U.S Great Lakes Water Quality Agreements, in its current iteration has adopted a broader 'ecosystemic' purpose which is reflected in its following components:

- Vision – “ This Agreement is guided by the vision of ‘**a healthy, prosperous and sustainable Great Lakes Basin Ecosystem** for present and future generations”
Purpose – “This Agreement builds on a long-standing commitment of the **Parties to restore, protect and conserve the Basin Ecosystem**”
 - Principles [of 12 principles – the following 3 address ecosystem, integrity and overall environmental quality]:
 - Conservation – energy, water and other resources should be conserved to sustain the physical, chemical and biological integrity of the Great Lakes Basin Ecosystem
 - Ecosystem Approach- the interdependence of land, air, water and living organisms, including humans, and the need to make decisions that will maximize the benefits to the entire Basin Ecosystem
 - Rehabilitation – where environmental quality has been degraded by human activity, restoration should be part of the solution.
 - Actions specified in the COA’s 4 annexes include pollution prevention and control, habitat and species restorations, restoration of areas of concerns, lake wide management, air pollution prevention and control and air quality management.
5. Adoption of the broader ecosystem view is adopted in the U.S. Great Lakes Policy Committee’s 2002 Great Lakes Strategy:
- The VISION:
 - The Great Lakes Basin is a healthy natural environment for wildlife and people.
 - All Great Lakes beaches are open for swimming.
 - All Great Lakes fish are safe to eat.
 - The Great Lakes are protected as a safe source of drinking water.
 - In support of this vision, the member agencies of the U.S. Policy Committee commit to work together to “protect and restore the chemical, physical, and biological **integrity of the Great Lakes Basin Ecosystem.**”
 - “Great Lakes Strategy 2002 (hereunder the "Strategy") was created by the U.S. Policy Committee (USPC) – a forum of senior-level representatives from the Federal, State, and Tribal governmental agencies that share responsibility for environmental protection and natural resources management of the Great Lakes – to advance the restoration and protection of the Great Lakes Basin Ecosystem.”
 - The strategy continues to lists a number of goals and actions which include removing contaminated sediments, restoring wetlands, reducing contaminant levels in fish, prevention of the spread of invasive species.
 - Both the Canada Ontario Agreement and the U.S. Strategy go far beyond a pollutant reduction effort and into a broad based ecosystemic program.

References

Revised 1978 Great Lakes Water Quality Agreement of 1978 as amended by Protocol Signed November 18, 1987. Consolidated by the International Joint Commission, United States and Canada, Washington, D.C. and Ottawa, Canada, 1994.

Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem, effective March 22, 2002;
http://www.on.ec.gc.ca/laws/coa/agreement_e.html#agreement

2002 Great Lakes Strategy of the U.S. Great Lakes Policy Committee;
<http://www.epa.gov/glnpo/gls/index.html>

Issue/Question #4:

- Key potential criticisms of broadening the focus of the Great Lakes Water Quality Agreement beyond Great Lakes waters to encompass the Great Lakes Basin Ecosystem include:
 - The GLWQA is premised on Article 4 of the Boundary Waters Treaty whose focus is on the prohibition of transboundary pollution of boundary waters. Will not an Agreement on the Great Lakes Basin Ecosystem detract from that basic focus?
 - Will broadening the focus of the Agreement to include protection of all components of the ecosystem weaken the agreement by taking away the spotlight from water quality?

Recommendations:

- **An Agreement on the Great Lakes Basin Ecosystem should further prevent transboundary pollution as intended by Article 4 of the Treaty.** Article 4 of the Treaty prohibits the pollution of the boundary waters by one party to cause injury or damage to property of the other party. As the understanding of systemic pollution advanced, it is now generally accepted that protection of all components of the Great Lakes Basin Ecosystem is necessary to stem transboundary pollution in the boundary waters of the lakes. Accordingly updating the purpose statement of the Agreement should not be deterred by the potential charge that it broadens the Agreement beyond the bounds of the Boundary Waters Treaty. It is a way of further preventing transboundary pollution as intended by Article 4 of the Treaty.
- **An Agreement with a stronger Great Lakes Basin Ecosystem focus will serve to highlight the need to better coordinate actions within and among Great Lakes jurisdictions on a Basin-wide basis and thereby maximize existing efforts for the benefit of the whole basin ecosystem.** The cumulative lesson learned in over 25 years of implementing the 1972, 1978, and 1987 agreements is that protection of the boundary waters can only be accomplished by better management of the human activities on the land, water and air of the Great Lakes Basin. All governments of the Great Lakes Basin have a variety of policies and legislation including pollution control and prevention of air and wastewater emissions, endangered species and spaces protection, land-use policies, land reclamation, renewable resource management that are applied within their political boundaries.

Background/Rationale:

1. In the multi-agency, multi disciplinary environment of the scientific and professional water management communities of the mid 1970's, the term "Great Lakes Basin Ecosystem" and accompanying ideas such as "ecosystem management" and "ecosystem approach" were quite controversial. Suffice it to say that comprehension of the terms varied at the time. The ideas had been introduced to the Great Lakes community only a few years before the 1976/77 review by the IJC's Science Advisory Board which had brought together a number of

scientists and managers to discuss and further articulate these ideas¹. The ideas generally resonated with the Great Lakes community but were also met with considerable scepticism, particularly with regard to their applicability. Their acceptance into the agreement could only be managed within the ranks of either Party if the focus of the agreement was kept to the “waters of the Great Lakes Basin Ecosystem”.

2. Expansion of the scope of the 1972 Agreement was anticipated when the agreement was signed as it contained two major study references – the Pollution from Land Use Activities Reference and the Upper Lakes Pollution Reference whose objectives were to identify and analyze further pollution to the Great Lakes System and recommend measures to stem that pollution. Key interim recommendations from Land Use Activities Reference which were incorporated into the 1978 Agreement included measures to review and supervise road salting and storage of road salt, measures to control urban, suburban and rural soil losses and measures to facilitate improvements in land use planning and management programs. The Land Use Reference’s final recommendations that arrived after the 1978 Review were incorporated in the 1987 Protocol resulting in a whole new annex on Non Point Pollution. Recommendations of the Upper Lakes Reference to measure and track atmospheric deposition into the lakes and extend phosphorus controls into the Upper Lakes were incorporated into the 1978 Agreement.
3. General Objectives that were restricted to the boundary waters in the 1972 Agreement were further extended to cover all waters of the Great Lakes System in the 1978 Agreement. Accordingly, growth in scope of the Agreement has been built into the Agreement.

References

Revised 1978 Great Lakes Water Quality Agreement of 1978 as amended by Protocol Signed November 18, 1987. Consolidated by the International Joint Commission, United States and Canada, Washington, D.C. and Ottawa, Canada, 1994.

Great Lakes Water Quality Agreement of 1978, Agreement with annexes and terms of reference, between the United States of America and Canada, signed at Ottawa, November 22, 1978 and Phosphorous Load Reduction Supplement signed October 7, 1983, International Joint Commission, Washington, D.C. and Ottawa, Ontario, 1985.

United States and Canada: Great Lakes Water Quality Agreement, with annexes and texts and terms of reference, signed at Ottawa April 15, 1972, International Joint Commission, Washington, D.C. and Ottawa, Ontario, 1974.

¹ *Great Lakes Research Advisory Board. The Ecosystem Approach: Scope and Implications of an Ecosystem Approach to Transboundary Problems in the Great Lakes Basin, Special Report to the International Joint Commission. Windsor, Ontario, July 1978, 47 pp. - Note- the workshop was held in 1977 and various drafts were available for discussion prior to the publication date.*

Issue/Question #5:

- Should a Great Lakes Basin Ecosystem [GLBE] Agreement include issues of Great Lakes water withdrawals, levels and flows? If so, how should these issues be treated in a GLBE Agreement?

Recommendations:

1. From the point of view of protecting and maintaining the integrity of the basin ecosystem, a GLBE Agreement would have to refer to water withdrawals, levels and flows in some manner.
2. Regarding levels and flows, the IJC already operates two Control Boards under standing references from the Parties to control the levels and flows out of Lakes Superior and Ontario within a very narrow range. These references along with a further direction to the IJC could ensure cooperation between the Boards of Control and the Great Lakes Boards on matters of mutual interests. The Commission and its Boards could be left to define specific instances for cooperation. For example, the Commission may wish to direct the Control Boards to advise the Water Quality Board (WQB) of forecasted periods of extreme high or low water levels so that the WQB can communicate with key environmental interests such as wetland managers to take adaptive management steps.
3. Regarding water withdrawals issues, the Canadian federal government recently amended the International Boundary Waters Treaty Act to prohibit bulk withdrawal from the Great Lakes. As States and Provinces believe that they have the authority and jurisdiction to manage water resources, the Council of Great Lakes Governors (including Provincial Premiers from Ontario and Quebec) with their Great Lakes Charter are in the process of developing a common decision framework for the control of withdrawals, called Annex 2001. Should its development and implementation proceed as planned, the Parties will need to decide how they wish to acknowledge and work with the arrangements. The annex is slated for completion by June 2004.

Background/Rationale:

1. Regarding levels and flows, the IJC already has clear responsibilities from the Boundary Waters Treaty and standing references on the levels and flows out of Lakes Superior and Ontario. The Commission has also strong advisory and reporting responsibilities assigned to it under the current GLWQA. On the assumption that all these responsibilities will continue, the Commission has the discretion to organize the way it wishes its Boards to operate, particularly in regard to each other, in order to provide it and the Parties with advice on the ecosystem impacts of the levels and flows. For example, under the current GLWQA reference and the reference on transboundary air pollution issues, the Commission asked its Water Quality and Air Advisory boards to work together on specific matters. Under other references, the Commission has taken the initiative to combine its pollution and levels control boards for the St Croix River and the Rainy River.
2. With regard to Great Lakes withdrawal matters, the current situation is in a state of transition. The Canadian federal government recently passed amendments to its International Boundary Waters Treaty Act to prohibit any bulk removal of waters from the Great Lakes. At this time, it is not clear how state and provincial governments will interact with each other on matters of water withdrawal as arrangements have not been finalized. This situation is expected to clarify as a form of Annex 2001 is completed and moves to public and

intergovernmental consultations over the next year. Meanwhile, there is limited involvement by the federal levels of government in this state-provincial oriented process.

Issue/Question #6:

- What would be the main differences between a Great Lakes Basin Ecosystem Agreement [Agreement] and a Great Lakes Basin Ecosystem Management Agreement [Management Agreement]?

Recommendations:

1. First of all, adjusting the current Agreement into an ecosystem agreement would be an important step and significant change in orientation leading to the question whether a Basin Ecosystem Agreement or Basin Ecosystem Management Agreement is needed.
2. In substantive terms, an Agreement would be more a passive instrument than a Management Agreement. Within an Agreement the emphasis would be on reporting out on issues from an ecosystemic perspective. Its contribution would be to broaden the scope of the agreement to more explicitly include a range of renewable resource management goals and objectives. Reporting out under an ecosystem agreement would identify where ecosystem management was being practiced or not by analyzing ecological issues and how they were being addressed by responsible organizations.
3. On the other hand, a Management Agreement would be a more active and assertive instrument in stipulating ecosystemic requirements; recommending or stipulating ecosystemic management practices in addressing Great Lakes issues and explicit in articulating expected ecosystemic results.
4. Working models of ecosystem management agreements should be sought and studied for applicability to the Great Lakes.

Background/Rationale:

1. Both the 2002 COA (in Canada) and the 2002 Great Lakes Strategy (in the U.S.) would be considered passive instruments in that they bundle a variety of resource management and pollution control programs and activities from various agencies under a common vision and goal of protecting and maintaining the integrity of the ecosystem. This speaks to two realities regarding ecosystem management:
 - First, ecosystem management is still in its infancy as an operational practice. In most resource management agencies expertise is still developed and practiced along relatively strict disciplinary and professional lines. Hence, there is a need to further develop the practice of a more integrated approach to ecosystem management.
 - Secondly, effecting greater interagency cooperation within levels of governments has become exceedingly difficult following the major downsizing of agencies. This is not due to lack of interest of the part of professional personnel, it is a consequence of the amount and pace of work expected of those who staff the key agencies in either Party and the state and provincial governments. This means that agency capacity to take the time to learn and practice ecosystem management is very low.

- Both these reasons provide a hefty challenge to be met in advancing ecosystem management. Other important reasons include issues of interagency “turf protection” and perceived or real limitations of program mandates all in an absence of an overall, coordinated bi-national basin-wide initiative.
2. Given these factors, if the likely form of ecosystem agreement which Parties could expect to agree would be the passive form, the scope and form of both 2002 COA and the 2002 Great Lakes Strategy are worth studying. They may represent the current limits of possibilities in terms of ecosystemic agreements.
 3. Nevertheless, working models of ecosystem management agreements should be sought and studied for applicability to the Great Lakes. In fact, such a project should be considered as part and parcel of an enlightened review process.
 4. When contemplating a broader ecosystem type of agreement, it will be important to review the implications of the Canada-United States Air Quality Agreement. An ecosystem approach will call for a broader air-land-watershed kind of approach and will require consideration of relevant existing agreements and mechanisms such as the Air Quality Agreement.

Issue/Question #7:

- Will it be sufficient to broaden the purpose statement (Article II) of the GLWQA and not make other changes in the Agreement?

Recommendations:

1. Should the Parties decide to change the purpose of the Agreement they have the option of adopting a) a whole new format for a Great Lakes Basin Ecosystem Agreement; or, b) adjusting the text in the current format of the Agreement to accommodate the change in purpose.
 - a) If the Parties decide to change the purpose statement and include a more explicit commitment to the ecosystem perspective, it is conceivable that the Parties might be adopting a totally different format for the agreement. If that is the case, the formats used in the 2002 COA and the 2002 Great Lakes Strategy are two possible forms to which the Parties may wish to refer.
 - b) If the Parties maintain the current format of the Agreement, the following changes might be considered:
 - Preamble — stronger statement as to the need for a Great Lakes Basin Ecosystem perspective — [the introductory paragraphs of the 2002 COA and 2002 Great Lakes Strategy should be reviewed].
 - Article II — Purpose Statement — a clear and unambiguous statement of purpose regarding the protection and enhancement of the Great Lakes Basin Ecosystem.
 - Possibly consider a totally revised Purpose statement which includes a statement on cooperation with a range of existing key institutional mechanisms which could reference some or all of the following:
 - North American Waterfowl Management Plan
 - The Great Lakes Fisheries Convention
 - The Migratory Birds Convention
 - Great Lakes Wetlands Strategy
 - Canada-U.S Air Quality Agreement
 - Canada-U.S Agreement on Transboundary Movement of Hazardous Wastes
 - Appropriate Sections of the Boundary Waters Treaty
 - Standing References on Lakes Ontario and Superior Levels and Flows
 - The Council of Great Lakes Governors and Premiers
 - The Great Lakes Mayors and Municipalities
 - First Nations and Tribes
 - The idea of referencing these active institutional mechanisms in the GLWQA would be to acknowledge their importance in contributing to the protection and enhancement of the Great Lakes Basin Ecosystem for the purposes of mutual reinforcement and support. [NOTE: careful study of each of these mechanisms will have to be undertaken to delineate the real or potential contribution of each in advancing the protection and enhancement of the Great Lakes Basin Ecosystem. The above list is provided to illustrate the range of existing

mechanisms whose operations cover and could impact the Great Lakes Basin Ecosystem; additional mechanisms may exist].

- Article III — General Objectives — add some strong objective statements comparable to the existing five “free from...” type statements covering land, biota and air.
- Article IV — Specific Objectives — suggest that appropriate objectives of the key existing bilateral arrangements listed above be referenced if they contribute directly to the protection or enhancement of the Great Lakes Basin Ecosystem. Also, one could consider asking institutions responsible for these mechanisms to suggest specific objectives that would align the agreement with their existing mandate.
- Article VI — Programs and Measures — incorporation of the appropriate programs and measures to cover other aspects of ecosystem management will have to be incorporated. Again, reference could be made to the 2002 COA and 2002 Great Lakes Strategy for the types of programs and measures that could be included.

Background/Rationale:

1. In moving to an ecosystem agreement, it will be important to find a way to reference and work in a cooperative manner with existing bilateral arrangements that are already focussing on specific aspects of the basin ecosystem.
2. It should be noted that these mechanisms are relatively specific management arrangements and their operational perspectives are not necessarily entirely coterminous with that of the Great Lakes Basin Ecosystem. Hence there may be reluctance on their part to be viewed and described in an Agreement as holding interests in the well-being of the basin ecosystem; some may say it is outside their mandate. At the same time, it should be noted that all these mechanisms are addressing important aspects of the protection and enhancement of the Basin Ecosystem. Also, the current breadth of interagency, federal-state and federal-provincial cooperation under the current agreement within either Party is large and sets a precedent for further cooperative measures.
3. Using the current format of the agreement and adjusting it to accommodate a new purpose and focus on the Great Lakes Basin Ecosystem would seem to be a natural progression from past restructuring of the Agreements. This would allow all to see which parts of the Agreement are being adjusted and which are being kept. Unfortunately it may lead to a less streamlined and less efficient text. Working with the current format and making adjustments to text however would facilitate transparency in the review process.
4. If the Parties opt for a totally new format, with all new text, more efforts in communicating and explaining the text will be required, but the chances of a better written text and efficient Agreement will increase.

Issue/Question #8:

- What could be the scope of an Agreement review?

Recommendations:

1. The review of the Agreement should be comprehensive.
2. The purpose of the Agreement should be evaluated for its relevance to today's issues.
3. Each Article and Annex should be evaluated to determine relevance regarding scope and deadlines.
4. The existing "Governance" structure should be examined.

Background/Rationale:

1. The Parties have not completed a comprehensive review of the Agreement in more than two decades.
2. Many of the most critical environmental issues facing the Great Lakes, such as alien invasive species, climate change and habitat restoration, are not currently addressed by the Agreement.
3. Many Articles and Annexes do not reflect accomplishments and current work.
4. Objectives and deadlines are out of date.
5. Many observers believe that the current implementation structure, including the authority and role of the Boards, is ineffective.
6. There exists, in the Great Lakes community, a growing recognition that the Agreement should be updated to become more relevant.
7. The Agreement requires "The Parties shall conduct a comprehensive review of the operation and effectiveness of the Agreement following every third biennial report of the Commission required under Article VII of this Agreement".

Issue/Question # 9:

- What role should the IJC play in a review?

Recommendations:

1. Recognizing that the Review will be by the Parties, the IJC should take a prominent role in the Review and make comprehensive recommendations to the Parties regarding the Review and the process by which it is carried out.
2. The Commission should make an offer of assistance to the Parties. The Commission, could for example, confirm its view that the Review is a serious and important task and should offer to provide resources for the facilitation of stakeholder input to the Review process. A Great Lakes “Roundtable” is one model that could be offered.
3. The Commission should make it clear to the Parties (first) that it would encourage discussion on options for a new agreement and that it will openly encourage a dialogue on a fresh, new vision and a new agreement.

Background/Rationale:

1. Under Article VII of the Agreement the Commission has the clear authority to Report to and provide assistance to the Parties. It has a mandate to provide advice on “how” the Review is undertaken.
2. The Commission has a unique bi-national perspective.
3. The Commission staff is qualified to make comprehensive recommendations.
4. The Commission has the interest (and hopefully the resources) necessary to facilitate stakeholder input into the review process. Such an effort could result in valuable perspectives for the Parties’ consideration.
5. Note that the Commission is also responsible for inviting public comment on the Canada-United States Air Quality Agreement progress reports and for providing a synthesis of comments to the governments to assist them in implementing the agreement. Lessons that could be learned from the Commission’s experience with respect to the Air Quality Agreement review process should be considered when considering the GLWQA review.
6. There is an interesting convergence taking place among groups and individuals who are working to "restore the greatness" of the Great Lakes. While there is a general recognition that lots of good work has been done, there is an acceptance that many more challenges remain and new ones are emerging. In dealing with these new challenges, many have noticed a trend in terms of moving from traditional "top-down" institutions and processes to more "bottom-up" models. There are a number of Great Lakes organizations that have “restoration strategies” and they are actively promoting them. This is a good sign but they are doing so in the absence of a shared vision and an overall integrated binational Great Lakes initiative.

This leaves us with a new kind of challenge in terms of providing something that Great Lakes groups and organizations and businesses can rally around and a new vision, a new energy and a new idea with which people can identify and take ownership. There is a

sense that the Great Lakes is kind of stuck in a "same old" rut but meanwhile people in communities around the Great Lakes have built a powerful capacity to do something positive to enhance the sustainability of the region. The orchestra has no leader.

Many feel that we would all benefit by having a fresh, energized, forward-looking more inclusive Great Lakes initiative. People feel we will also need more effective coordination among the numerous Great Lakes organizations and institutions that exist on both sides of the border, recognizing that each organization has a different role and purpose and largely complementary interests.

The IJC could take a leadership role by encouraging a comprehensive Review of the Agreement, connecting organizations through a Commission-supported stakeholder process, provide guidance, information (reminding people of its reports already done that highlight deficiencies) and catalyze a positive new approach to managing the Great Lakes through the development of a fresh new vision and a new Agreement.

C. Summary Notes on the Reviews of the 1972 Agreement and 1978 Agreement

1977/1978 Review of 1972 Agreement

Structure and Format:

- Parties separately reviewed their respective programs and activities under the 1972 Agreement and identified gaps and new issues to address.
- Parties held limited public hearing sessions for public input; Canada held one hearing in Toronto chaired by Ministers Leblanc and Kerr and one hearing in Thunder Bay chaired by senior officials.
- Parties then met formally and set up several bilateral working groups to address key issues identified by their review and from public input.
- Bilateral Work Groups on specific issues produced recommended amendments to the 1972 Agreement that resulted in new provisions and annexes in the 1978 Agreement.
- Formal bilateral negotiation sessions were held to finalize text.

Significant Changes in the 1978 Agreement:

- Maintained the basic management framework of the 1972 Agreement –i.e. objectives, programs and reporting to IJC.
- New article on Purpose introduced the ecosystem concept “to restore and maintain the chemical, physical and biological **integrity** of the waters of the **Great Lakes Basin Ecosystem**.
- Introduced the **concept of virtual elimination** of the discharges of persistent toxic substances in the Great Lakes System.
- Broadened the scope of the Agreement by including new provisions to address pollution from Agricultural Forestry and Other Land Use Activities; Persistent Toxic Substances, Airborne Pollutants, Monitoring and Surveillance.

Role of the IJC

- The IJC provided input through the third biennial report that triggered the review. [Note: there may have been a further input by the IJC as the review was discussed by the Commission and the Parties at the annual meeting of 1976 or 1977. Further input by the IJC if any, should be documented in records of the IJC executive meeting following that annual meeting.]

1986/1987 Review of the 1978 Agreement

Structure and Format:

- Parties met and communicated to agree to an outline of an overall review process and to keep each other informed of their respective reviews.
- Parties carried out separate reviews of their respective activities and issues under the 1978 Agreement.
- Each Party proposed textual changes to the Agreement Provisions.
- Parties held separate public meetings/workshops on the proposed textual changes [Canada, under COA held three meetings, at Burlington, Kingston and Sault Ste Marie and the U.S held four or five].

- The development of Canada's review position was led as a COA project with federal agencies involved through the Great Lakes Working Group and provincial agencies through an interministerial committee.
- In the U.S. the following process was followed to develop a review position:
- USEPA hosted two meetings of all of the eight Great Lakes states to agree upon the scope of the review.
- USEPA met with interested stakeholders to receive input on the review process and scope.
- The State Department held a meeting of U.S. federal agencies on the review.
- The U.S. formed a "review delegation" which was lead by the State Department and included: USEPA, The Corps of Engineers, and The Coast Guard. Three States: Michigan, New York and Wisconsin and three environmental groups: Great Lakes United, the National Wildlife Federation and the Sierra Club served as advisors. This group met twice to help develop the U.S. position on the review.
- An initial bilateral meeting to compare texts was held; a small team was formed to negotiate a proposed single text.
- A small team [Canada's Department of Foreign Affairs and International Trade/Environment Canada/Ontario Ministry of the Environment; and the U.S. Great Lakes National Program Office/OIA/State Department/a state] consolidated separate texts – each liaised with their federal/state/provincial counterparts.
- Parties met in formal bilateral sessions to negotiate the final text of the 1987 Protocol with "stakeholder observers" in each delegation.

Significant Changes in the 1987 Protocol:

- The 1987 Protocol maintained the basic management framework of the Agreement –i.e. objectives, programs and reporting to IJC.
- It strengthened the idea of ecosystem integrity of the Agreement by introducing the concept of ecosystem objectives, adding two new ecosystem objectives to the specific objectives article and providing for the development and adoption of further ecosystem objectives.
- It broadened the scope of the Agreement to address pollution from contaminated sediments, airborne toxics, contaminated groundwater and subsurface sources including old landfill sites, research and development.
- It specified restoration of impaired water uses in Areas of Concerns through the development and implementation of Remedial Action Plans (RAPs).
- It addressed whole lake contamination by toxic persistent substances through the development and implementation of Lake-wide Management Plans (LAMPs)

Role of the IJC

- The Water Quality Board undertook a relatively detailed technical review of the 1978 Agreement in 1985 or 1986.
- The IJC incorporated it into the 3rd biennial report that triggered the review.
- IJC input was accepted by the Parties along with a Great Lakes United report based on hearings and a joint review done by the U.S. National Research Council and Royal Society of Canada.
- The IJC was kept informed informally and also sent observers to U.S and Canadian workshops held during the review process; Commission records could confirm whether they were ex officio members of formal delegations.

Other Key Factors

- Consideration of timing and the political environment of the times are critical to reviews. The 1976-1978 Review and Agreement renegotiations fed off the public and political enthusiasm for more environmental action which began in the early 1970s and which was also evident through formation of the Environmental Protection Agency, Environment Canada, the Ontario Ministry of the Environment as well as other state and provincial agencies as well as key pieces of federal, state and provincial environmental legislation such as the U.S. Clean Water Act [presently up for renewal] and the Canada Water Act. In this climate there was receptivity to new concepts and broadened actions and commitments that were incorporated into the 1978 Agreement.
- In contrast, with the 1986-1987 review NGOs such as Great Lakes United pleaded not to have the agreement reopened at all. There was openly expressed concern that the U.S administration of the time was committed to pruning back federal intervention into state affairs and federal environmental regulation was a major flashpoint. At the same time USEPA officials were convinced that the Agreement needed to be strengthened. In addition, both the State Department and USEPA were eager for an environmental accomplishment. The 1987 Protocol provided this opportunity. In addition, there was significant interest in Great Lakes issues in the U.S. Congress at that time. Also in 1987, Congress amended the Clean Water Act to include a new section on the Great Lakes. In Canada, the first signs of major expenditure cutbacks in response to a growing federal budget deficit were emerging and agencies were told to not take on greater financial obligations. In this climate, the outcome following the Review was to only consider minimal changes to the text of the Agreement and to accept changes associated with programs and budgets that were already more or less in place. Any new funds that could be allocated to the Agreement activities were viewed as bonus but not counted upon at the time of review.
- Similarly, the political climate of 2004 -2005 will greatly influence whether there will be a review and how extensive it will be if there is one.
- On the Canadian side, current factors to take into consideration (in September 2003) are:
 - An Ontario provincial election has been called for October 2, 2003 and all parties are expected to campaign on a strong environmental platform. It is not clear however where and how Great Lakes will be positioned on the environmental planks of the parties vis-à-vis drinking water security, smog, climate change, solid waste, etc.
 - Federally, the current Chrétien administration is expected to transition into the Martin administration that is seen as strong proponent of sustainable development. The new administration will inherit a major challenge in advancing Canada's climate change file in light of the ratification of the Kyoto Protocol. However water has not appeared on the federal agenda of any political party to any great extent. If the new administration goes to an election in summer or fall of 2004, there will be an opportunity to get Great Lakes on the agenda but to what extent is not clear.
 - At the municipal level, there may be an opportunity for the Great Lakes programs in that the federal relationship with municipalities is expected to become stronger with more supporting programs. The extent to which those new programs and funds will be in direct support of furthering GLWQA goals is not known at this time.

Meanwhile, Ontario municipalities will have elections this fall. Local environmental issues will figure prominently in many municipalities regarding drinking water security, smog and solid waste management and needed upgrades to aging infrastructure. While such public discussion is generally beneficial, the extent to which it will engender support for a strengthened Great Lakes agreement is not clear.

- On the United States side, current factors to take into consideration are:
 - For the first time in several years two major Great Lakes Restoration Bills have been introduced in the U.S. Congress. These bills call for water management planning and restoration funding. The House bill calls for \$800 million per year for five years and the Senate bill calls for \$600 million per for 10 years; both require in-kind contributions.
 - There exists a great deal of activity in the area of Great Lakes restoration agendas. The Council of Great Lakes Governors and the Great Lakes Commission are developing restoration agenda priorities.
 - The Bush Administration is and can be expected to be attacked for their environmental record. This situation creates both an opportunity and fears. As in 1987, the Administration would like to have a strong environmental success and a revised Agreement may an opportunity. At the same time environmental groups, while admitting the Agreement needs to be updated, may not trust the Administration to make positive changes.
 - There is an opportunity at this time for a positive review of the Agreement. The U.S. government, if they choose to proceed, needs to send a strong signal to the Great Lakes community that their intent is to strengthen the agreement.